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| Mr. Michael T. Davis  WLPCS Pre-Calculus | | Unit 2.9 Review for Final Exam  May 22, 2018 | |
| Name: | |

**Directions for # 1-4: For each rational function:**

1. **Identify an equation for each vertical asymptote (VA), if any exist.**
2. **Identify an equation for each horizontal asymptote (HA), if any exist.**
3. **Identify the coordinates of all x-intercepts, if any exist.**
4. **Identify the coordinates of a y-intercept, if one exists.**
5. **Identify any value of x for which the graph has a hole.**
6. **Draw a neat and accurate graph of the function.**



1. (8 pts) 

VA:

HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:



1. (8 pts) 

VA:

HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

1. (8 pts)  or 

VA:

HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:



1. (8 pts)  or 

VA:

HA:

X-Intercept(s):

Y-Intercept:

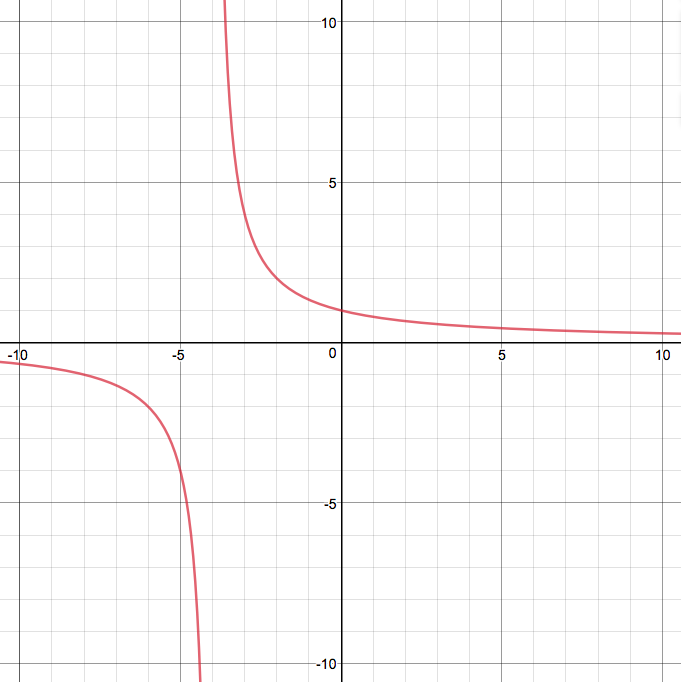
X-Value of Hole:

**Directions for #’s 5-11: Multiple Choice**

1. (4 pts) The rational function  has the following domain:
2. 
3. 
4. 
5. 
6. 
7. (4 pts) The rational function  has an x-intercept with coordinates:
8. 
9. 
10. 
11. 
12. There is no x-intercept
13. (4 pts) The rational function  has a horizontal asymptote with equation:
14. 
15. 
16. 
17.  & 
18. There is no horizontal asymptote
19. (4 pts) The rational function  has a hole at:
20. 
21. 
22. 
23. 
24. There is no hole
25. (4 pts) The rational function  has a y-intercept with coordinates:
26. 
27. 
28. 
29. 
30. There is no y-intercept
31. (4 pts) The rational function  has an x-intercept(s) with coordinates:
32.  & 
33.  only
34.  only
35.  & 
36. There is no x-intercept
37. (4 pts) The rational function  has a horizontal asymptote with equation:
38. 
39. 
40. 
41. 
42. None of the above

**Directions for # 12-16: For each rational function:**

1. **Identify an equation for each vertical asymptote (VA), if any exist.**
2. **Identify an equation for each horizontal asymptote (HA), if any exist.**
3. **Identify the coordinates of all x-intercepts, if any exist.**
4. **Identify the coordinates of a y-intercept, if one exists.**
5. **Identify any value of x for which the graph has a hole.**
6. **Write an equation for the rational function.**



1. (8 pts)

VA:

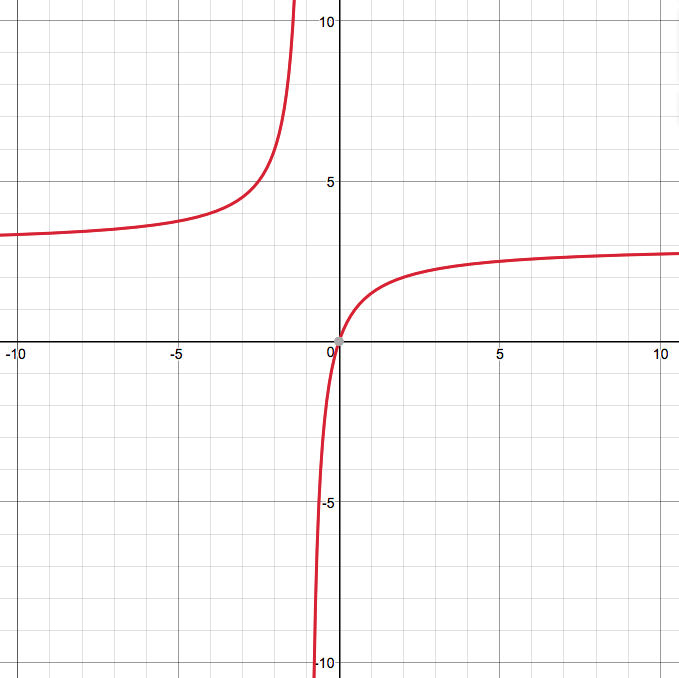
HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

Equation:



1. (8 pts)

VA:

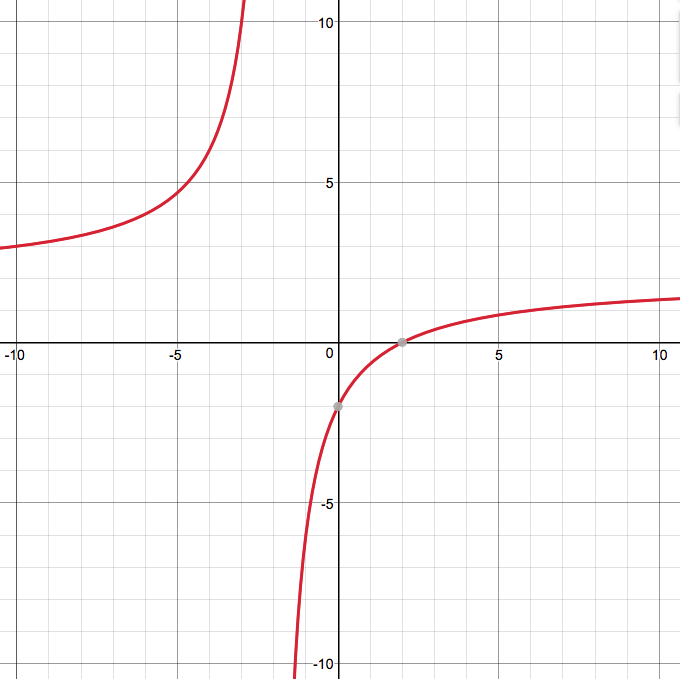
HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

Equation:

1. (8 pts)

VA:

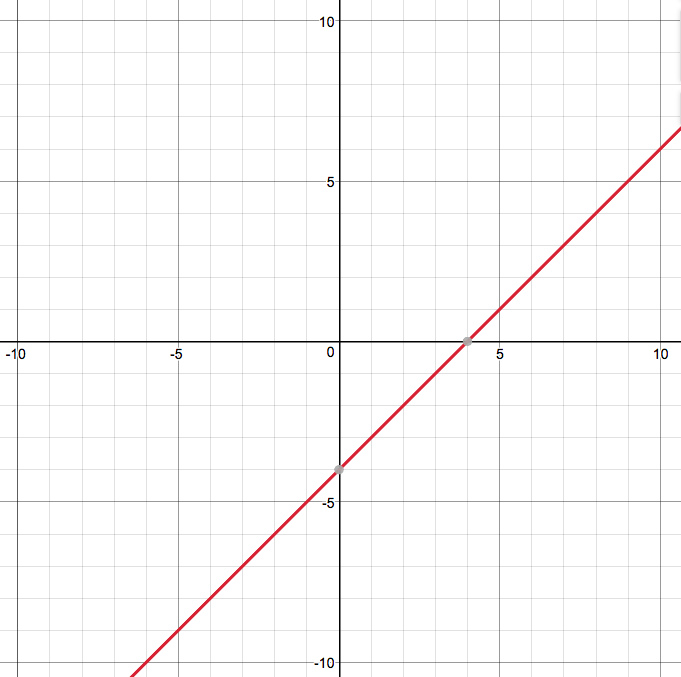
HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

Equation:

1. (8 pts)

VA:

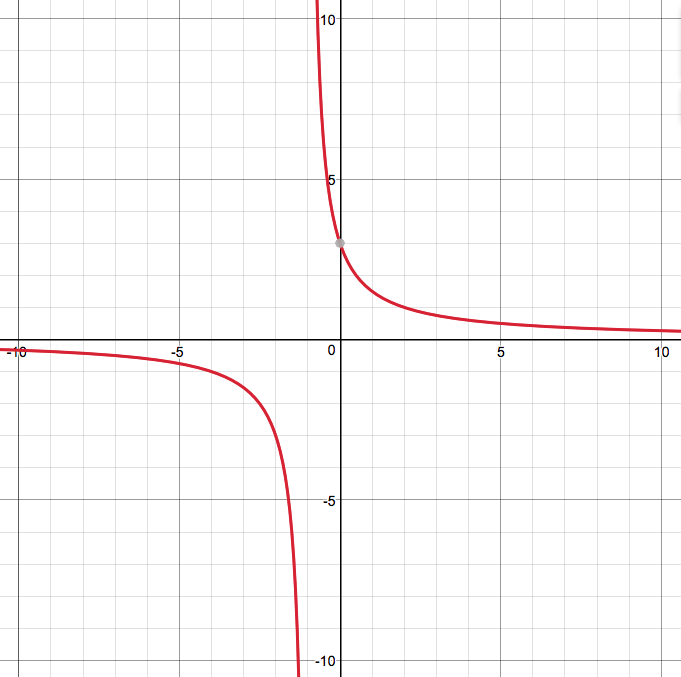
HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

Equation:

1. (8 pts)

VA:

HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

Equation:

**Optional Extra Credit**



A. (8 pts) 

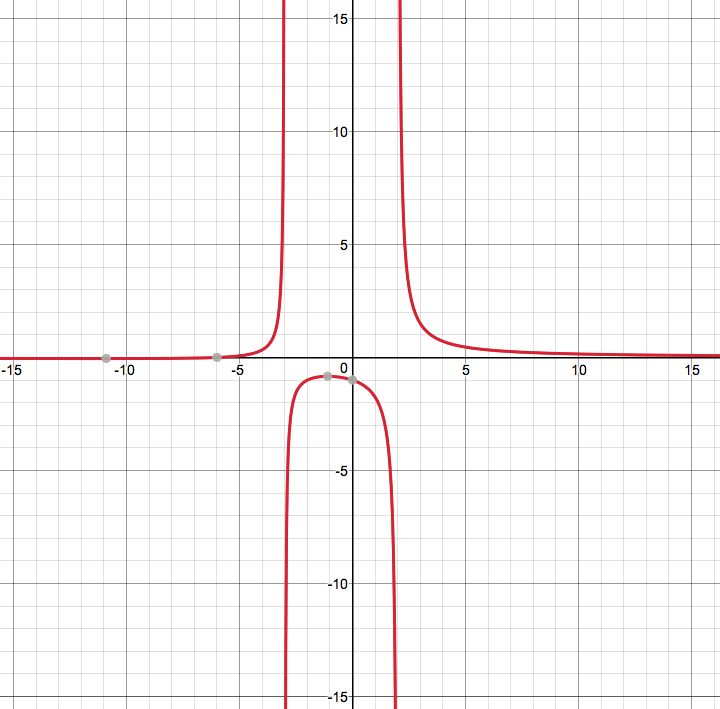
VA:

HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:



B. (8 pts)

VA:

HA:

X-Intercept(s):

Y-Intercept:

X-Value of Hole:

Equation: